

## **Deficiencies in the Confined Space Program**

By

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How good is your installation's confined space (CS) program? Have you put it on the back burner and let it simmer? Are you thinking it's just a safety program and you'll let them run it all? Let me convince you to change your mind and make it a priority. Then I'll give you some common program deficiencies we have identified during our Health Services Inspections that will help you gauge your compliance in the CS program.

First, a little background information. Fatalities from improper CS procedures are the only Air Force occupational workplace deaths (nonautomotive related) that did not fall under the category of a safety related incident, such as falls from elevations, contact with electrical energy and machine-related incidents. From Dec 78 to Jan 90, six Air Force employees died from hazardous conditions within CS's. In Nov 90, the Air Force implemented the CS program to protect employees. This is such a hazardous field of work that the National Institute for Occupational Safety and Health has developed the Fatality Assessment and Control Evaluation program to investigate the circumstances and causes of the deaths and to make recommendations to prevent future incidents. Of course, the Occupational Safety and Health Administration (OSHA) investigates these incidents, and you can most assuredly guarantee a citation. This is not the kind of attention you want from your medical group, installation and MAJCOM commanders.

You might be thinking that since the last death from a CS incident occurred over 13 years ago, you can keep it a low-priority program--but that is a bad idea. A 2002 Bureau of Labor Statistics report expects 20 fatalities per year due to CS hazards. Statistics show that more than 60% of CS fatality victims result from botched rescue attempts by attendants. By making this program a low priority, you're increasing the chance for these incidents to occur on your base. Hopefully, this information has persuaded you to focus on this area--besides the fact that the Bioenvironmental Engineering (BEE) inspectors will review your program and document any deficiencies in your Health Services Inspection (HSI) report.

The most common CS program deficiencies we have found during HSIs involve the master entry permit (MEP) and its associated documentation. The Chief BEE or the CS program manager (if delegated) needs to memorize paragraph 2.10.4 of AFOSH Std 91-25, Confined Spaces. Each of the subparagraphs must be included on each MEP developed at your base. Areas the BEE often overlooks are listing the chemical quantities authorized for use and the expected exposure levels based on air sampling results. You must list the quantities on the MEP! Statements referring the reader to the technical order for specific amounts do not meet the intent of 29 CFR 1910.146, Permit-Required Confined Spaces. For the bases that have listed the amounts, most haven't even performed a worst-case calculation to determine if the quantities used are of concern in the CS, let alone performed air sampling to quantify the hazard. By not knowing the airborne concentration of chemicals introduced into the CS, the personal protective equipment (PPE) used might be inadequate. Other problem areas found have to do with

not listing the specific PPE, monitoring or rescue equipment to be used with the conditions under which they will be used. The MEP must state what kind of gloves the workers will be wearing and when they'll be wearing them. The same goes for their meter. Do your MEPs state when and how they will be using it? This leads to the last common finding during inspections; the BEE has not certified organizational personnel, as required, to test CS's. Do you know how to use a Bacarach 514 (almost every Air Force Base with a fuels shop has one)? They are very difficult use and if you do not know how to operate them, how do you expect the fuels workers to use them? When you perform your shop visit, do you ask the entry monitors how they prepare their meter before they leave? Do they know what the gas cylinder that comes with the meter is for? Do they bump-check the meter prior to every use? Or is the calibration gas cylinder just covered in dust and buried in the back of their tool shed? You are required by AFOSH Std 91-25 to certify the workers or, if unable to support this requirement, to assist in identifying a training resource.

You must realize that by not accomplishing the above items, serious illness or death may result to the CS workers. This is a very critical matter and will be viewed as such by your HSI inspector. By the way, to help you improve worker safety (and reduce your level of effort), please refer to the AFIOH Industrial Hygiene (IH) Branch website for new information on Lower Explosive Level meters to be used by the fuels shops. Listed under the IH Publications Table of Contents on the web site, click on the Fact Sheets option to find the 24 Apr 03 document, LEL Meter Fact Sheet. It describes changes to the T.O. requiring a new and easier to use type of JP-8 meter for fuels shops. It will make worker certification on the meter much easier for you.